

Application Number 10/052,696  
Responsive to Office Action mailed June 18, 2004

**AMENDMENTS TO THE CLAIMS**

This listing of claims will replace all prior versions and listings of claims in the application.

**Listing of Claims:**

Claim 1 (Currently Amended): A linear recording medium, comprising a pattern of time-based servo transitions including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions having modulated distances between adjacent parallel servo transitions as a function of location of the first servo transitions on the medium.

Claim 2 (Original): The medium of claim 1, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 3 (Original): The medium of claim 1, in which the linear recording medium is a magnetic recording medium.

Claim 4 (Original): The medium of claim 1, in which the linear recording medium is a tape recording medium.

Application Number 10/052,696  
Responsive to Office Action mailed June 18, 2004

**Claim 5 (Currently Amended):** A system for intentionally generating position error signal in a data recording drive, comprising in combination:

- a) a linear recording medium, upon at least a portion of which are recorded with a pattern of time-based servo transitions including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions, having modulated distances between adjacent parallel servo transitions as a function of location on the medium; and
- b) a servo read head connected to the drive;

in which the drive is designed to expect essentially no modulated distance between adjacent parallel servo transitions on the medium.

**Claim 6 (Original):** The system of claim 5, in which the adjacent parallel servo transitions are immediately adjacent.

**Claim 7 (Original):** The system of claim 5, in which the speed of the linear recording medium relative to the servo read head is constant.

**Claim 8 (Currently Amended):** A method of intentionally generating position error signal in a data recording drive, comprising:

writing a pattern of time-based servo transitions including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions on at least a portion of a linear recording medium; and while

modulating distance, as a function of location on the medium, between adjacent parallel servo transitions.

**Claim 9 (Original):** The method of claim 8, in which the adjacent parallel servo transitions are immediately adjacent.

**Claim 10 (Original):** The method of claim 8, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Application Number 10/052,696  
Responsive to Office Action mailed June 18, 2004

**Claim 11 (Original):** The method of claim 8, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

**Claim 12 (Original):** The method of claim 8, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.

**Claim 13 (Original):** The method of claim 8, in which the method comprises generating position error signal in a step response pattern.

**Claim 14 (Original):** The method of claim 8, in which the method comprises generating position error signal in a pulse response pattern.

**Claim 15 (Original):** The method of claim 8, in which the method comprises generating position error signal in a frequency response pattern.

**Claim 16 (Currently Amended):** A method of measuring step response of a servopositioning system in a recording drive designed to expect essentially no modulation of distance between adjacent parallel servo transitions on a linear recording medium, comprising:

- a) at first and second longitudinal locations on the medium, writing a pattern of servo transitions including respective first and second sets of non-parallel servo transitions, the sets of non-parallel servo transitions defining parallel servo transitions that have respective first and second distances between adjacent parallel servo transitions that differs from each other; and
- b) reading position error signal at each longitudinal location.

**Claim 17 (Original):** The method of claim 13, in which the adjacent parallel servo transitions are immediately adjacent.

**Claim 18 (Original):** The system of claim 13, in which the position error signal is read while the linear recording medium moves relative to the servo read head at constant speed.

**Claim 19 (Original):** The method of claim 13, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Application Number 10/052,696  
Responsive to Office Action mailed June 18, 2004

Claim 20 (Original): The method of claim 13, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 21 (Original): The method of claim 13, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.

Claim 22 (Currently Amended): A method of simulating rapid transient motion of a linear recording medium, comprising:

- a) at a first transverse location on the medium, writing a time-based servo pattern including first servo transitions non-parallel to second servo transitions, wherein the first servo transitions define a series of parallel servo transitions on at least a portion of the medium;
- b) while modulating distance, as a function of location on the medium, between adjacent parallel servo transitions; and
- b)c) repeating the writing and modulating steps at a second transverse location.

Claim 23 (Original): The method of claim 22, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 24 (Original): The method of claim 22, further comprising moving the linear recording medium relative to a servo read head of a recording drive at constant speed.

Claim 25 (Original): The method of claim 22, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Claim 26 (Original): The method of claim 22, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 27 (Original): The method of claim 22, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.

Claim 28 (Original): The method of claim 22, further comprising reading position error signal at each transverse location with a recording drive, and disabling a data write function in the drive if the position error signal exceeds a stop write limit.

Application Number 10/052,696  
Responsive to Office Action mailed June 18, 2004

Claim 29 (Original): A method of evaluating performance of a linear recording drive designed to expect essentially no modulation of distance between adjacent parallel servo transitions on a linear recording medium compatible with the drive, comprising

- a) providing a medium having a series of parallel servo transitions having distances between adjacent parallel servo transitions which have been modulated as a function of location of the transitions on the medium;
- b) using the drive to read position error signal at each transverse location on the medium; and
- c) comparing the position error signal to an expected value.

Claim 30 (Original): The method of claim 29, in which the adjacent parallel servo transitions are immediately adjacent.

Claim 31 (Original): The method of claim 29, in which the position error signal is read while the linear recording medium is moving at constant speed.

Claim 32 (Original): The method of claim 29, in which writing comprises adjusting clock timing in a servo write head timing circuit.

Claim 33 (Original): The method of claim 29, in which writing comprises adjusting position of the linear recording medium relative to a fixed servo write head.

Claim 34 (Original): The method of claim 29, in which writing comprises adjusting position of a servo write head relative to the linear recording medium.